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Patent claims

(Amended 02.02.2000)

1.   Method for setting up telephone-to-telephone calls us-
ing telephones connected to a PSTN/ISDN access network and
using a separate network, especially Internet as a substan-
tial by-pass network, special telephone gateways (GW) form-
ing bridges between the access network and said by-pass
network, and connections being established between the user
telephones (A,B) and the gateways (GW) that bridge the
call,
c h a r a c t e r i z e d   i n   that the calling party (A)
in a one-step procedure dials a by-pass network service
prefix together with the number of the called party (B),
i.e. a prefix + B-number, and more specifically an IN serv-
ice prefix,
that said by-pass network service prefix is analysed to
identify the relevant IN service for thereby routing the
call to an IN node which can execute this IN service,
the IN service establishes the call to an appropriate gate-
way (GW), which means that the gateway is made service
transparent to the calling party (A).

2.   Method as claimed in claim 1,
c h a r a c t e r i z e d   i n   that said IN service is ar-
ranged to find the most appropriate, e.g. the closest gate-
way (GW) by analyzing the caller's number (A), and/or pos-
sibly route the call to an alternative gateway if the clos-
est is busy, etc.

3.   Method as claimed in claim 2,
c h a r a c t e r i z e d   i n   that after the IN service
has established the call (A) to the most appropriate gate-
way (GW), (GWa) there is in the call set-up included the
associated gateway number (GWa) as destination number, as
well as the caller number (A) and the callee number (B).

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4.   Method as claimed in claim 3,
c h a r a c t e r i z e d   i n   that address analysis is
carried out in the gateway (GWa) to which the call has been
routed.

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5.   Method as claimed in claim 4,
c h a r a c t e r i z e d   i n   that number analysis is
coupled with other services, for example short numbers for
virtual network, and UPT.

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6.   Method as claimed in any of the preceding claims,
c h a r a c t e r i z e d   i n   that a process for finding
the most appropriate gateway for any terminating callee
number (B) is carried out in the intelligent network (IN),
15   i.e. by finding the E.164 number to an appropriate gateway
(GWb), as well as the IP (Internet Protocol) address to the
gateway (GWb).

7.   Method as claimed in claim 6,
20   c h a r a c t e r i z e d   i n   that there is maintained an
updated list of gateways in the by-pass network, as well as
a list of respective IP-addresses and the respective area
code(s).

25   8.   Method as claimed in any of the preceding claims,
c h a r a c t e r i z e d   i n   that the area code of the
number (B) of the callee is used to find the IP-address of
the most appropriate callee gateway (GWb), for example the
closest gateway thereof.

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9.   Method as claimed in any of the preceding claims,
c h a r a c t e r i z e d   i n   that in the call setup from
the intelligent network (IN) towards the access gateway
(GWa) the IP-address of the terminal gateway (GWb) is in-
35   cluded, so that the access gateway (GWa) can use the re-
ceived terminal gateway (GWb) IP-address in the remaining
call handling process.

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10. Method as claimed in any of the preceding claims, characterized in that the most appropriate gateway (GWa) or gateways (GWa, GWb) is/are selected according to the quality of service (QoS) required, or possibly according to other criteria, for example tariff, availability, etc.